What IS Claimed:

~~CLAIMS~~

A method of modulating bone resorption in a human or animal, said method comprising administering to said human or animal an effective amount of leptin or a derivative, homologue, analogue, chemical equivalent, antagonist or agonist thereof for a time and under conditions sufficient for the modulation of osteoclastogenesis.

2. A method according to Claim 1 wherein the leptin or its derivative, homologue, antagonist or agonist comprises an amino acid sequence having at least 60% similarity to the amino acid sequence set forth in <400>7 after optimal alignment.

3. A method according to Claim 1 wherein the leptin or its derivative, homologue, antagonist or agonist is encoded by the nucleotide sequence set forth in <400>8 or a nucleotide sequence having at least 60% similarity to <400>8 after optimal alignment or a nucleotide sequence capable of hybridizing to <400>8 or its complementary form under low stringency conditions at 42°C.

4. A method according to Claim 1 or 2 or 3 wherein the modulation comprises a reduction in bone resorption.

5. A method according to Claim 4 for the treatment of osteoporosis or Paget's disease.

6. A method for inhibiting, reducing or otherwise delaying onset or progression of bone resorption in a human or animal, said method comprising administering to said human or animal an effective amount of a leptin or a derivative, homologue, analogue, chemical equivalent or agonist thereof for a time and under conditions sufficient to inhibit, reduce or otherwise delay onset or progression of osteoclastogenesis.

7. A method according to Claim 6 wherein the leptin or its derivative, homologue, antagonist or agonist comprises an amino acid sequence having at least 60% similarity to the amino acid sequence set forth in <400>7 after optimal alignment.

8. A method according to Claim 7 wherein the leptin or its derivative, homologue, antagonist or agonist comprises an amino acid sequence having at least 60% similarity to the amino acid sequence set forth in <400>7 after optimal alignment.

9. A method according to Claim 6 or 7 or 8 for the treatment of osteoporosis or Paget's disease.

10. A composition comprising leptin or a derivative, homologue, analogue, chemical equivalent, antagonist or agonist thereof and one or more pharmaceutically acceptable carriers and/or diluents when used for modulating bone resorption.

11. A composition according to Claim 10 when used for inhibiting bone resorption.

12. A composition according to Claim 11 when used for the treatment of osteoporosis or Paget's disease.

13. A method for inhibiting osteoclastogenesis in a human or animal, said method comprising administering to said human or animal an amount of leptin or a derivative, homologue, analogue, chemical equivalent or agonist thereof effective to antagonize the osteoclastic effect of ODF by stimulation of OPG and/or inhibition of RANK expression.

14. A method according to Claim 13 wherein the leptin or its derivative, homologue, antagonist or agonist comprises an amino acid sequence having at least 60% similarity to the amino acid sequence set forth in <400>7 after optimal alignment.

15. A method according to Claim 13 wherein the leptin or its derivative, homologue, antagonist or agonist is encoded by the nucleotide sequence set forth in <400>8 or a nucleotide sequence having at least 60% similarity to <400>8 after optimal alignment or a nucleotide sequence capable of hybridizing to <400>8 or its complementary form under low stringency conditions at 42°C.

16. A method according to Claim 13 or 14 or 15 for the treatment of osteoporosis or Paget's disease.

add a_4